THE PART 15 COALITION

September 6, 2007

ELECTRONIC SUBMISSION

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: In the Matter of Amendment of the Commission's Part 90 Rules in the 904-909.75 and 919.75-928 MHz Bands
WT Docket No. 06-49
Ex Parte Presentation

Dear Ms. Dortch:

This is to inform you that on September 5, 2007, in connection with the above-referenced proceeding, the undersigned and Justin Lilley, TeleMedia Policy Corp., met with Fred Campbell and Cathy Massey, respectively, Chief and Deputy Chief of the Wireless Telecommunications Bureau.

The purpose of the meeting was to discuss the above-referenced NPRM and specifically the analysis of the Coalition's technical expert with regard to the potential for interference to Part 15 technologies if the Progeny proposal were adopted. The attached analysis has been submitted in the record of this proceeding and was provided to Mr. Campbell and Ms. Massey.

Please direct any questions regarding this matter to the undersigned.

Respectfully submitted,

/s/Mitchell Lazarus
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Mitchell Lazarus
Fletcher, Heald & Hildreth, PLC
1300 North 17th St. 11th floor
Arlington VA 22209
(703) 812-0440
Attorneys for the Part 15 Coalition

/s/ Henry Goldberg
_____
Henry Goldberg
Laura Stefani
Goldberg, Godles, Wiener & Wright
1229 19th Street, NW
Washington, D.C. 20036
(202) 429-4900
Attorneys for the Part 15 Coalition

Attachment

cc: Fred Campbell
Cathy Massey

WK3C WIRELESS LLC

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Part 15 and the Potential for Significant Interference Under the Progeny Proposal

ET Docket No. 06-49, *Amendment of the Commission's Part 90 Rules*

Ex Parte Communication

Carl R. Stevenson
President and CTO

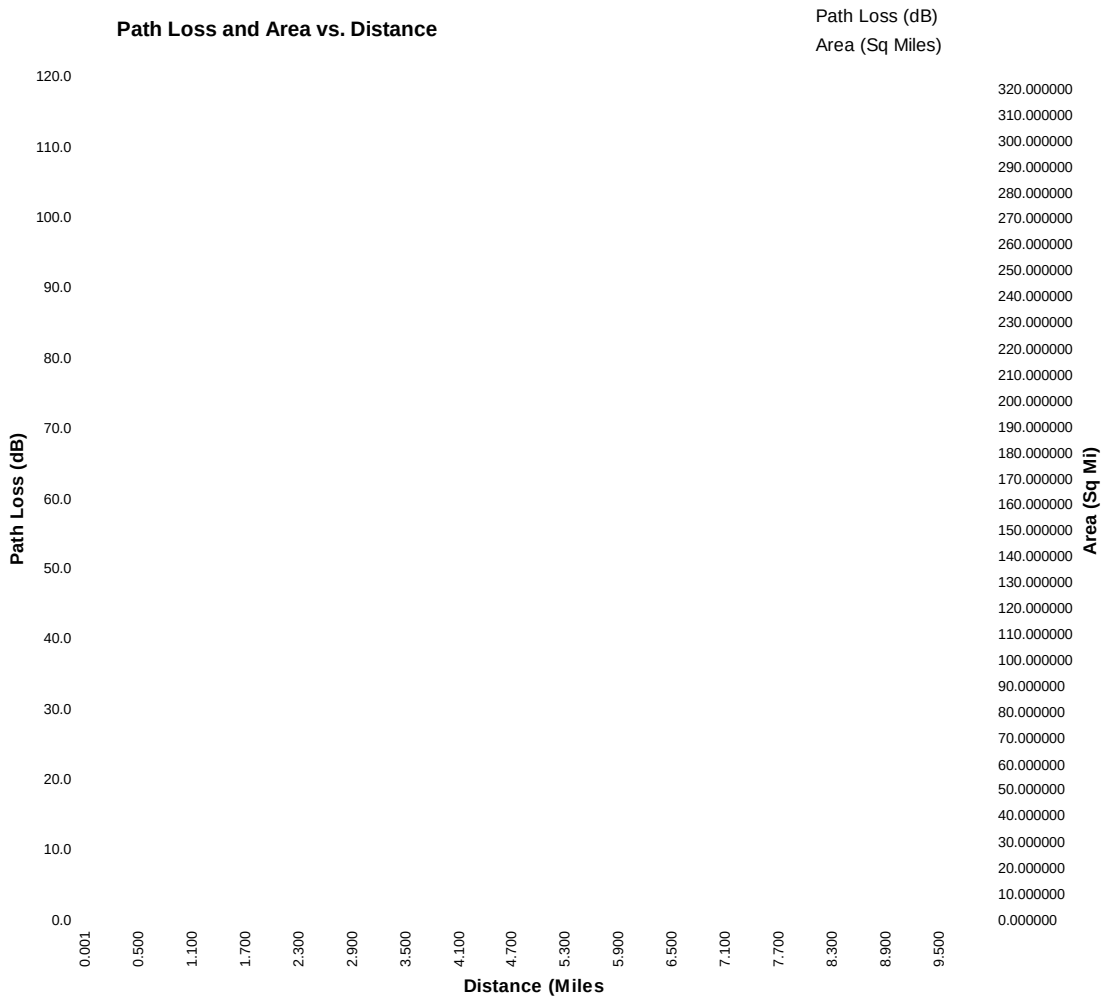
The Part 15 Coalition Followed Progeny's Technical Approach

- In Progeny's "Appendix B," which purports to show that fewer, higher powered base stations present no greater risk of unacceptable interference to Part 15 than a somewhat larger number of, lower powered base stations, Progeny itself:
  - Chose to use a "free space" propagation model
  - Postulated a required (*"for the system receiver to operate"*) M-LMS received signal level of -68.8 dBm at r = 10 miles
  - Postulated that Part 15 receivers should be able to tolerate an undesired M-LMS signal at a level of -28.8 dBm on an "adjacent channel" (where the spacing of that adjacent channel is unspecified)
  - Totally ignored the possibility and effects of co-channel interference to Part 15 from high powered M-LMS base stations and CPEs
- The material provided to The Part 15 Coalition simply reviewed Progeny's own "model" and refuted their conclusions on an "apples to apples" basis.

Higher Power = Higher Potential for Interference

- This simple statement is only logical, because
  - Path (propagation) loss accumulates most rapidly relatively close to the transmitter
  - It is therefore clear that a lower starting point (power) will cause received signal levels to fall below interfering levels at shorter distances (smaller r) from the transmitter than a higher starting point (power)
  - This change in interference distance will reduce the area of interfering signal by (at least) Δr^2, for example:
    - The 1st ~90 dB of propagation loss (free space) accumulates (at 915 MHz) when r = ~0.5 mile from the transmitter (an area of 0.785 sq. mi.)
    - However, the next ~20 dB of propagation loss does not accumulate until r = ~5 miles from the transmitter (an area of 78.5 sq. mi., or 100x area)
  - Thus, with lower transmit power the area of potential interference to Part 15 can be dramatically reduced
- *This effect is even more strikingly important in the case of co-channel interference*, which Progeny ignored, than in the case of adjacent channel interference (which Progeny *did* focus on).

More Base Stations at Lower Power Will Cause Interference Over Smaller Areas



Peak Power is an Important Consideration in Evaluating Interference Potential

- Progeny rejects the Coalition's proposal to limit M-LMS peak power
  - Progeny asserts that *"M-LMS power should be expressed in terms of average power, not peak power …"* and falsely asserts that *"… modern digital communications do not cause interference based on peak power levels."*
  - In fact, peak power *does* cause interference.
  - Given no constraint on peak to average power ratio, the peak power could be *significantly* higher than the average power.
  - Peaks "punch holes" in packets in digital packet-based communications (cause packet errors) and create very disruptive impulsive noise and "dropouts" in analog FM systems such as cordless phones.
- Progeny is incorrect in asserting that peak power limits are not embodied in Part 15 UNII band rules [see 47 C.F.R. 15.407(a) (1-6)]

Duty Cycle Limits

- Progeny misstates the facts in its rejection of the Coalition's proposal for a duty cycle limit on high powered M-LMS devices
  - Contrary to Progeny's assertion, Part 15 *does* impose duty cycle restrictions [see 15.247(a)(i), which prescribes a duty cycle limit per channel of 4%]
  - Progeny also ignores the fact that the Coalition's proposal for a duty cycle limitation only applied to high power M-LMS stations and not to those that would operate within Part 15 parameters.
- Duty cycle, like peak power, is an important factor in limiting the interference to Part 15 from M-LMS to acceptable levels
  - A M-LMS system that can be "always on," at high power, with high peak to average power ratio is counter to the Commission's commitment to maintain a balance between Part 15 interests and M-LMS interests and would seriously harm the utility of the hundreds of millions of Part 15 devices in the 902-928 MHz band.

"Coordination" as a Replacement for Testing would not be Feasible

- "Interference coordination" between M-LMS and Part 15 users is totally infeasible and constitutes nothing more than an "empty promise"
  - The overwhelming majority of Part 15 users lack, and cannot be expected to have, the requisite test equipment and technical expertise to identify if/when Progeny's proposed "trigger" level of PSD is the cause of interference in order to initiate the (unspecified) process
  - Since coordination is infeasible, Progeny's characterization of its proposed "coordination" is anything but "reasonable"
  - It is, therefore, essential that the testing requirements of 47 CFR 90.353(d) and the Part 15 "safe harbor" be maintained